



麥迪倫 Dylan W. Meyer

博士後研究 Postdoctoral Fellow

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## [EDUCATION]

**The University of Texas at Austin**, Ph.D. in Geological Sciences

Aug 2018

Thesis: *Dynamics of Gas Flow and Hydrate Formation within the Hydrate Stability Zone*

Advisor: Dr. Peter Flemings

GPA: 3.8/4.0

Awards/Honors: Graduate Student Research Fellowships (5 semesters); AGU 2015 Outstanding Student Paper Award

Certifications: UT Austin International Office Global Professional Training Program for East and Southeast Asia (Nov 2017)

**Eckerd College**, B.S. in Marine Geophysics and B.S. in Computer Science (High Honors)

May 2012

GPA: 3.9/4.0

Awards/Honors: Graduated with High Honors; Dean's List (2010 – 2012); Presidential Merit Scholarship (2008 – 2012); Academic

Excellence in Computer Science (2012); President of Omicron Delta Kappa (National Leadership Honor Society)

## [RESEARCH EXPERIENCE]

**Institute of Earth Sciences, Academia Sinica**, Postdoctoral Fellow

Taipei, Taiwan Sep 2018 –

**The University of Texas at Austin**, Research Assistant

Austin, TX, Aug 2012 – May 2018

- Investigated the behaviors of methane hydrate formation and gas flow within the hydrate stability zone using long duration, high-pressure, low-temperature experiments and computed-tomography scanning.
- Designed a new experimental method and iteratively improved data quality, reduced errors, and increased success rate.
- Developed innovative post-processing procedures and mathematical models to analyze experimental results.
- Performed 30+ experiments that provided novel and relevant contributions to my field of research.
- Determined that factors controlling hydrate formation during gas flow are different than previously assumed.
- Communicated the essential results of my research at professional conferences and through peer-reviewed publications.
- Oversaw training of graduate and undergraduate students in experimental protocols and post-processing procedures.
- Collaborated with a multi-institutional research team of faculty, staff, and both graduate and undergraduate students.

**GEOTEK Ltd.**, Research Scientist

South China Sea, China, Jun 2016 – Aug 2016

- Member of high-pressure sediment core analysis team on Guangzhou Marine Geological Survey hydrates research cruise.
- Coordinated with multiple teams to assure proper sediment core post-processing, sampling, curation and storage.
- Maintained detailed database through improved data-entry protocols, continuous error-checking, and inter-team communication.
- Provided client with details on hydrate saturation estimates, host sediment descriptions, and core recovery and storage information as well as high quality sediment samples for additional post-cruise shore-based testing.

**GeoPRISMS Research Program**, Research Scientist

Cape Hatteras, Sept 2014 – Oct 2014

- Participated in Eastern North American Margin Community Seismic Experiment research cruise.
- Cooperated with chief scientists and deck crew to complete scientific objectives in a safe and timely fashion.
- Prepared clear, concise reports that communicated initial scientific results and experimental methodology to the public.

**U.S. Geological Survey, Consultant** St. Petersburg, FL, Jun 2012 – Aug 2012

- Created innovative algorithms to perform image post-processing, stitching, and georeferencing and evaluated program efficiency.
- Prepared professional reports concisely describing work performed, results, and recommendations for program improvements.

**Incorporated Research Institutions for Seismology, Research Intern** Memphis, TN, Jun 2011 – Aug 2011

- Investigated the shallow and deep-earth structure beneath the New Madrid Seismic Zone.
- Assisted in collection and analysis of a geophysical dataset taken along the Mississippi River.
- Performed independent research on erosional and depositional effects of the April 2011 Mississippi River flood on the shallow geomorphology and presented results at an international research conference.
- Determined that the flood eroded 6 meters of sediment and that post-flood bedforms indicated high depositional velocities.

## [POSTERS and PRESENTATIONS]

Jackson School of Geosciences Doctoral Seminar Apr 2018  
*Gas flow and hydrate formation in the hydrate stability zone*

International Conference on Gas Hydrates Jun 2017  
*Methane hydrate formation in a coarse-grained, brine-saturated sample through the induction of a propagating gas front*

AGU Fall Meeting Dec 2016  
*Methane hydrate formation in a coarse-grained, brine-saturated sample through the induction of a propagating gas front*

Gordon Research Conference on Gas Hydrates Mar 2016  
*Methane hydrate formation in a saturated, coarse-grained sample through the induction of a propagating gas front*

AGU Fall Meeting Dec 2015  
*Methane hydrate formation in a saturated, coarse-grained sample through the induction of a propagating gas front*

AGU Fall Meeting Dec 2014  
*Vertical migration of gas through fractures due to salinity-buffered hydrate formation within the hydrate stability zone*

Offshore Technology Conference May 2014  
*Thermodynamic stability of gas hydrates in the Krishna-Godavari basin inferred from well log analysis*

Gordon Research Conference on Gas Hydrates Mar 2014  
*Thermodynamic stability of gas hydrate systems on continental margins and in permafrost regions inferred from well log analysis*

Society of Petrophysicists and Well Log Analysts Meeting Jun 2013  
*In situ gas hydrate saturation and salinity of hydrate-bearing sediments through well log analysis*

AGU Fall Meeting Dec 2013  
*Thermodynamic state of hydrate-bearing sediments on continental margins around the world*

AGU Fall Meeting Dec 2011  
*Erosion and deposition patterns of the Mississippi River as a result of the “100-year” flood event of April 2011*

## [PUBLICATIONS]

**Meyer, D.W.**, Flemings, P.B., and DiCarlo, D.A. (2018). Effect of gas flow rate on hydrate formation within the hydrate stability zone. *Journal of Geophysical Research: Solid Earth*.

**Meyer, D.W.**, Flemings, P.B., DiCarlo, D.A., You, K., Phillips, S.C., and Kneafsey, T.J. (2018). Experimental investigation of gas flow and hydrate formation within the hydrate stability zone. *Journal of Geophysical Research: Solid Earth*.

**Meyer, D.W.** and Flemings, P.B. (2014). Thermodynamic stability of gas hydrates in the Krishna-Godavari basin inferred from well log analysis. *Offshore Technology Conference*. Houston, Texas.

Kukulka, T., Proskurowski, G., Morét-Ferguson S., **Meyer, D.W.**, and Law, K.L. (2012). The effect of wind mixing on the vertical distribution of buoyant plastic debris. *Geophysical Research Letters*, 39(7), doi:10.1029/2012GL051116